



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 82-4-L64-835-(L63)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20804.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 12-10-2021

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO. 64836

[LUMINAIRE] 4-28 LED 22" ARRAYS 4' INDUSTRIAL LUMINAIRE

[MORE] WHITE REFLECTOR w/OPEN BOTTOM

[LUMCAT] 82-4-L64-835-(L63)-DIM-UNV

CHARACTERISTICS

| | |
|---------------------------------|-----------------|
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 6198 |
| Total Luminaire Efficiency | N.A. |
| Luminaire Efficacy Rating (LER) | 168 |
| Total Luminaire Watts | 37 |
| Ballast Factor | 1.00 |
| CIE Type | Direct |
| Spacing Criterion (0-180) | 1.34 |
| Spacing Criterion (90-270) | 1.30 |
| Spacing Criterion (Diagonal) | 1.44 |
| Basic Luminous Shape | Rectangular |
| Luminous Length (0-180) | 4.00 ft |
| Luminous Width (90-270) | 1.08 ft |
| Luminous Height | 0.00 ft |



LUMINANCE DATA (cd/sq.m)

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45 | 5927 | 5835 | 5760 |
| 55 | 5790 | 5736 | 2975 |
| 65 | 5435 | 2960 | 2903 |
| 75 | 4321 | 959 | 894 |
| 85 | 1493 | 747 | 332 |

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CANDELA TABULATION

| | <u>0.0</u> | <u>22.5</u> | <u>45.0</u> | <u>67.5</u> | <u>90.0</u> |
|----|------------|-------------|-------------|-------------|-------------|
| 0 | 2314.541 | 2314.541 | 2314.541 | 2314.541 | 2314.541 |
| 5 | 2351.434 | 2310.658 | 2290.270 | 2286.386 | 2287.357 |
| 10 | 2326.192 | 2286.386 | 2265.998 | 2262.115 | 2262.115 |
| 15 | 2287.357 | 2246.581 | 2226.193 | 2278.619 | 2314.541 |
| 20 | 2231.047 | 2190.271 | 2233.960 | 2218.426 | 2254.348 |
| 25 | 2153.378 | 2120.369 | 2169.883 | 2089.301 | 2091.243 |
| 30 | 2067.942 | 2043.670 | 2016.486 | 2004.836 | 2002.894 |
| 35 | 1959.205 | 2006.777 | 1902.895 | 1912.603 | 1902.895 |
| 40 | 1822.313 | 1912.603 | 1799.012 | 1790.275 | 1777.653 |
| 45 | 1688.334 | 1682.509 | 1662.120 | 1641.732 | 1640.761 |
| 50 | 1517.462 | 1502.899 | 1495.132 | 1451.443 | 923.292 |
| 55 | 1337.852 | 1333.968 | 1325.230 | 693.197 | 687.372 |
| 60 | 1128.145 | 1145.620 | 609.703 | 597.082 | 597.082 |
| 65 | 925.234 | 921.351 | 503.879 | 486.403 | 494.170 |
| 70 | 683.489 | 691.256 | 388.346 | 134.950 | 105.824 |
| 75 | 450.481 | 273.784 | 99.999 | 92.232 | 93.203 |
| 80 | 232.037 | 118.445 | 71.844 | 60.194 | 56.310 |
| 85 | 52.427 | 43.689 | 26.213 | 13.592 | 11.650 |
| 90 | 1.942 | 18.446 | 6.796 | 0.000 | 0.000 |

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ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|-------|--------|
| 0-20 | 857.89 | N.A. | 13.80 |
| 0-30 | 1839.05 | N.A. | 29.70 |
| 0-40 | 3050.65 | N.A. | 49.20 |
| 0-60 | 5302.42 | N.A. | 85.50 |
| 0-80 | 6154.06 | N.A. | 99.30 |
| 0-90 | 6198.42 | N.A. | 100.00 |
| 10-90 | 5979.43 | N.A. | 96.50 |
| 20-40 | 2192.76 | N.A. | 35.40 |
| 20-50 | 3461.03 | N.A. | 55.80 |
| 40-70 | 2874.28 | N.A. | 46.40 |
| 60-80 | 851.64 | N.A. | 13.70 |
| 70-80 | 229.13 | N.A. | 3.70 |
| 80-90 | 44.36 | N.A. | 0.70 |
| 90-110 | 0.00 | N.A. | 0.00 |
| 90-120 | 0.00 | N.A. | 0.00 |
| 90-130 | 0.00 | N.A. | 0.00 |
| 90-150 | 0.00 | N.A. | 0.00 |
| 90-180 | 0.00 | N.A. | 0.00 |
| 110-180 | 0.00 | N.A. | 0.00 |
| 0-180 | 6198.42 | N.A. | 100.00 |

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

| Zone | Lumens |
|---------|---------|
| 0-10 | 218.99 |
| 10-20 | 638.90 |
| 20-30 | 981.16 |
| 30-40 | 1211.61 |
| 40-50 | 1268.27 |
| 50-60 | 983.50 |
| 60-70 | 622.51 |
| 70-80 | 229.13 |
| 80-90 | 44.36 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 106 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 94 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 75 | 73 |
| 3 | 92 | 82 | 75 | 69 | 90 | 81 | 74 | 68 | 78 | 72 | 67 | 75 | 70 | 66 | 73 | 68 | 65 | 63 |
| 4 | 85 | 73 | 65 | 59 | 82 | 72 | 64 | 58 | 70 | 63 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 |
| 5 | 78 | 66 | 57 | 51 | 76 | 65 | 56 | 50 | 62 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 47 |
| 6 | 72 | 59 | 51 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 44 | 55 | 48 | 43 | 53 | 48 | 43 | 41 |
| 7 | 67 | 54 | 45 | 39 | 65 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 36 |
| 8 | 62 | 49 | 41 | 35 | 61 | 48 | 40 | 35 | 47 | 40 | 35 | 46 | 39 | 34 | 45 | 39 | 34 | 32 |
| 9 | 58 | 45 | 37 | 32 | 57 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 29 |
| 10 | 54 | 41 | 34 | 29 | 53 | 41 | 34 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |

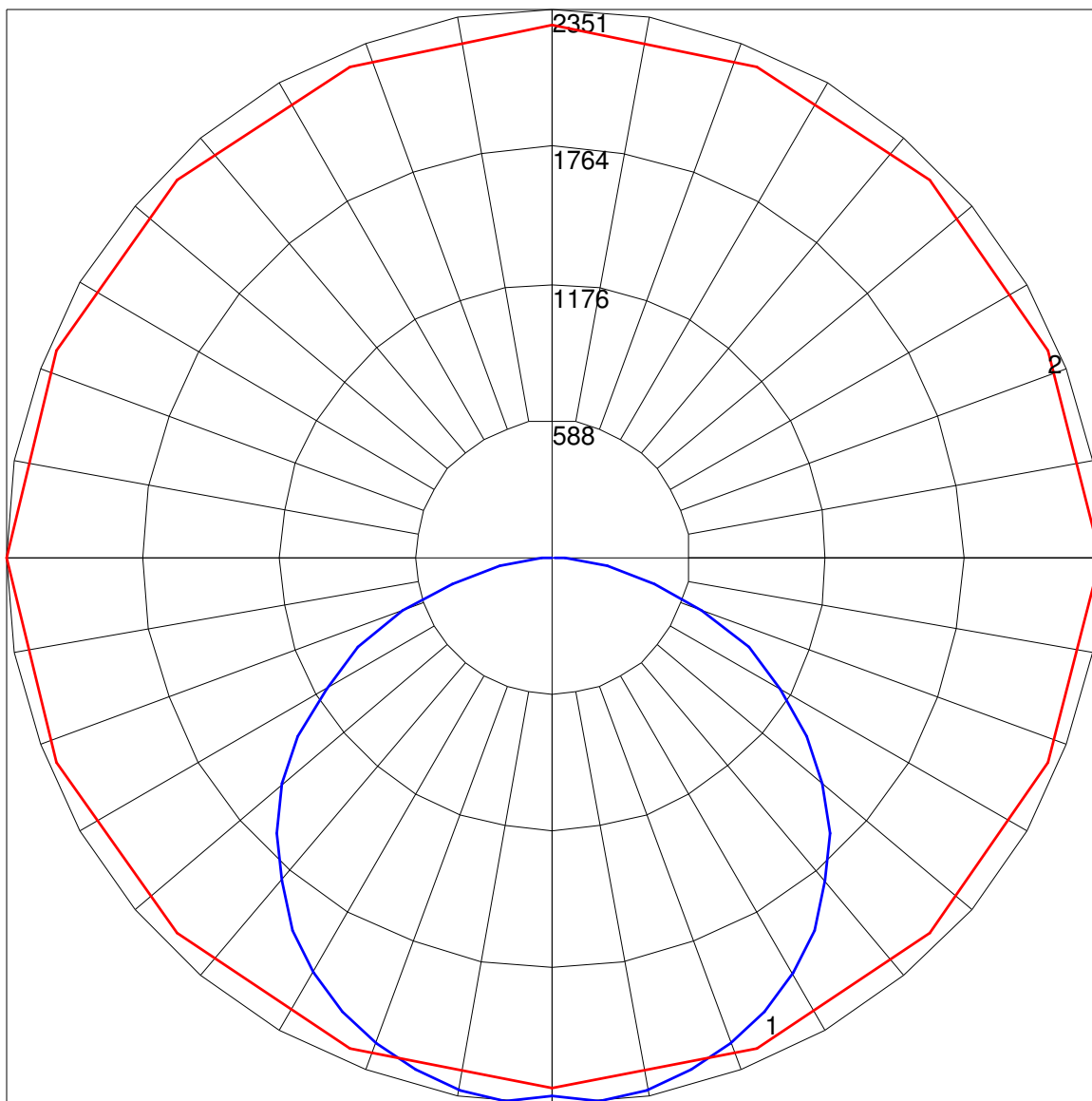
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UGR TABLE - CORRECTED

| Reflectances | | | | | | | | | | | |
|----------------|------|----------------------|------|------|------|------|--------------------|------|------|------|------|
| Ceiling Cavity | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 | |
| Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 | |
| Floor Cavity | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| Room Size | | UGR Viewed Crosswise | | | | | UGR Viewed Endwise | | | | |
| X=2H | Y=2H | 19.0 | 20.5 | 19.3 | 20.8 | 21.2 | 14.4 | 16.0 | 14.8 | 16.3 | 16.6 |
| | 3H | 20.7 | 22.1 | 21.1 | 22.5 | 22.8 | 15.0 | 16.4 | 15.4 | 16.8 | 17.1 |
| | 4H | 21.2 | 22.5 | 21.6 | 22.8 | 23.2 | 15.1 | 16.4 | 15.5 | 16.8 | 17.2 |
| | 6H | 21.5 | 22.7 | 21.9 | 23.0 | 23.4 | 15.2 | 16.4 | 15.6 | 16.8 | 17.2 |
| | 8H | 21.5 | 22.7 | 22.0 | 23.1 | 23.5 | 15.2 | 16.4 | 15.6 | 16.7 | 17.1 |
| | 12H | 21.5 | 22.6 | 22.0 | 23.0 | 23.4 | 15.2 | 16.3 | 15.6 | 16.7 | 17.1 |
| 4H | 2H | 19.0 | 20.4 | 19.4 | 20.7 | 21.1 | 15.1 | 16.5 | 15.5 | 16.8 | 17.2 |
| | 3H | 21.1 | 22.1 | 21.5 | 22.5 | 22.9 | 15.9 | 16.9 | 16.3 | 17.3 | 17.7 |
| | 4H | 21.6 | 22.5 | 22.0 | 22.9 | 23.4 | 16.0 | 16.9 | 16.4 | 17.4 | 17.8 |
| | 6H | 21.9 | 22.7 | 22.3 | 23.2 | 23.6 | 16.1 | 16.9 | 16.5 | 17.4 | 17.8 |
| | 8H | 22.0 | 22.8 | 22.4 | 23.2 | 23.7 | 16.1 | 16.9 | 16.6 | 17.3 | 17.8 |
| | 12H | 22.0 | 22.7 | 22.5 | 23.2 | 23.7 | 16.1 | 16.8 | 16.6 | 17.3 | 17.7 |
| 8H | 4H | 21.5 | 22.3 | 22.0 | 22.7 | 23.2 | 16.3 | 17.1 | 16.7 | 17.5 | 18.0 |
| | 6H | 21.8 | 22.5 | 22.3 | 23.0 | 23.5 | 16.4 | 17.1 | 16.9 | 17.6 | 18.0 |
| | 8H | 22.0 | 22.5 | 22.5 | 23.1 | 23.5 | 16.5 | 17.0 | 17.0 | 17.6 | 18.0 |
| | 12H | 22.0 | 22.5 | 22.5 | 23.0 | 23.6 | 16.5 | 17.0 | 17.0 | 17.5 | 18.0 |
| 12H | 4H | 21.5 | 22.2 | 22.0 | 22.7 | 23.1 | 16.3 | 17.0 | 16.8 | 17.5 | 18.0 |
| | 6H | 21.8 | 22.4 | 22.4 | 22.9 | 23.4 | 16.5 | 17.0 | 17.0 | 17.5 | 18.1 |
| | 8H | 21.9 | 22.5 | 22.5 | 23.0 | 23.5 | 16.5 | 17.0 | 17.0 | 17.5 | 18.1 |

Maximum UGR = 23.7

POLAR GRAPH



Maximum Candela = 2351.434 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)